

REMARKS

Claims 13-24 are pending in this application. By this Amendment, the Abstract, specification, and claims 13-24 are amended. No new matter is added. Claim 13 is the sole independent claim.

Favorable reconsideration of this application, in light of the preceding amendments and following remarks, is respectfully requested.

Applicants note with appreciation the Examiner's acknowledgement that certified copies of all priority documents have been received by the U.S.P.T.O. Action, summary at 12.

Applicants also note that the present action does not indicate that the drawings have been accepted by the Examiner. Applicants respectfully request that the Examiner's next communication include an indication as to the acceptability of the filed drawings or as to any perceived deficiencies so that the Applicants may have a full and fair opportunity to submit appropriate amendments and/or corrections to the drawings.

Applicants also note with appreciation the Examiner's consideration of the references cited in the Information Disclosure Statement filed on March 11, 2005.

Examiner's Interview

The courtesies extended to Applicants' representative, David J. Cho, during a telephonic interview with Examiner Thomas and Supervisory Patent Examiner (SPE) Bali conducted on June 26, 2008, are acknowledged and appreciated. The substance of the interview is set forth in the Examiner's Interview Summary and in the following Applicant Initiated Interview Summary.

Applicant Initiated Interview Summary

On June 26, 2008, an Applicant initiated interview was conducted. As required by 37 C.F.R. § 1.133(b), Applicants' summary of that interview is as follows:

1. Brief Description of any Exhibit Shown

No exhibit was shown or demonstrated during the interview of June 26, 2008.

2. Identification of the Claims Discussed

The Examiner and Applicants' representative discussed independent claim 13.

3. Identification of the Specific Prior Art Discussed

The Examiner and Applicants' representative discussed the Charney reference (WO 97/40619).

4. Identification of the Proposed Amendments

As presented above in the instant amendment, Applicants' representative and the Examiner discussed amending the independent claim to more clearly define the relationship between the "sub-sampling" and "eroding points."

5. Summary of the Arguments Presented to the Examiner

Applicants' representative presented arguments regarding the above proposed amendments in the context of the Charney reference. More specifically, Applicants' representative argued that the Charney reference fails to disclose or suggest "sub-sampling of the digital spatial marking in X according to a factor $nx = dlx/d2x$ and in Y according to a factor $ny = dly/d2y$ " and "erosion of the points intended to be applied so as to leave one point every nx points in X and one point every ny points in Y," as recited in claim 13. Although no agreement was reached, the Examiner agreed that there are positive differences between the claimed invention and the Charney reference. The remainder of the interview was directed to discussing

a level of recitation needed to clearly define the features of the “sub-sampling” and “eroding points,” thereby obviating the rejection based on the Charney reference.

6. General Outcome of the Interview

Although no agreement was reached between the Examiner and Applicants’ representative, Applicants have amended claim 13 to more positively recite the invention. In particular, claim 13 has been amended to recite “over-sampling the digital marking in X according to a factor $nx = d1x/d2x$ and in Y according to a factor $ny = d1y/d2y$ in order to obtain a digital mark according to a resolution $d1x$ by $d1y$ ” and “eroding the points intended to be applied so as to guarantee that the minimum distance between them is respectively nx and ny in horizontal and vertical directions.”

Objections to the Specification

The specification is objected to because the abstract of the disclosure exceeds 150 words. Applicants have amended the Abstract to obviate the objection. Withdrawal of the objection to the Abstract is respectfully requested.

Claim Objections

Claims 13, 23, and 24 are objected to under 37 CFR 1.75(d)(1) as failing to conform to the invention as set forth in the remainder of the specification. In particular:

- the preamble in claim 13 is found to be unclear;
- in claim 23, the term “portable detector” is not supported in the specification; and
- in claim 24, the term “two geographically remote locations” is not supported in the specification.

By the instant amendment, the Abstract and the instant disclosure (i.e., on page 11, lines 1-4) have been amended to obviate the objections. Withdrawal of the objection is respectfully requested.

Claim Rejections - 35 U.S.C. § 103

Claims 13-18 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over WIPO Application WO 97/40619 to Charney et al. (“Charney”). Applicants respectfully traverse this rejection for the reasons detailed below.

In order to establish a *prima facie* case of obviousness under 35 U.S.C. § 103(a), all of the claim limitations of the rejected claims must be described or suggested by the cited document(s).¹ Applicants respectfully submit that the cited document does not meet this criteria, because no modification of the Charney reference will describe or suggest all of the claim limitations of rejected claims 13-18, and therefore, a *prima facie* case of obviousness has not been established.

For example, claim 13, as amended, recites, *inter alia*:

over-sampling the digital marking in X according to a factor $nx = d1x/d2x$ and in Y according to a factor $ny = d1y/d2y$ in order to obtain a digital mark according to a resolution $d1x$ by $d1y$,

eroding the points intended to be applied so as to guarantee that the minimum distance between them is respectively nx and ny in horizontal and vertical directions.

Applicants respectfully submit that the Charney reference does not disclose or suggest the above features.

¹ See *In Re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). See also MPEP § 2143.03.

In the outstanding Office Action, the Examiner asserts that the Charney reference discloses “the unique identifying code (27) is replicated multiple times (271-275) over the document using an error correcting code to assure that at least one replication will be clear of matter selected for printing by the software.”² In other words, the rejection is based on an assertion that the “sub-sampling” is the replication of an image multiple times. Applicants respectfully disagree.

For instance, the feature of “sub-sampling” in previous claim 13 corresponds to “over-sampling,” (now recited in amended claim 13) which is the sampling of the same image with a higher resolution. This may be shown in FIG. 7, in which FIG. 7a illustrates an image at the scanner resolution, FIG. 7b illustrates an image after the “over-sampling” operation, and FIG. 7c illustrates an image after the erosion process.

In contrast, the Charney reference merely replicates the unique identifying code 27 multiple times 27₁ – 27₅ over the document 19 using an error correcting code to assure that at least one replication will be clear on the document (*see Abstract of the Charney reference*). This is not the same as the function of “over-sampling.”

Even assuming *arguendo* that the Charney reference teaches the “over-sampling” function (in which Applicants do not agree or admit to), it is not based “in X according to a factor $nx = d1x/d2x$ and in Y according to a factor $ny = d1y/d2y$ in order to obtain a digital mark according to a resolution $d1x$ by $d1y$.” The Charney reference is completely silent of teaching or suggesting this feature.

In addition, Applicants respectfully submit that the Charney reference also fails to disclose, or even suggest, “eroding the points intended to be applied so as to guarantee that the

² See Office action mailed April 11, 2008, page 4, paragraph 9.

minimum distance between them is respectively nx and ny in horizontal and vertical directions,” as recited in amended claim 13.

In the outstanding Office Action, the Examiner admits that the Charney reference fails to disclose the “erosion of points.” Yet, the Examiner asserts that “*erode* means to cause to deteriorate or disappear as if by eating or wearing away.”³ Again, Applicants respectfully disagree.

In particular, the “erosion” function as claimed in claim 13 is not to “deteriorate or disappear.” But rather, to erode the points intended to be applied so as to leave one point every nx points in X and one point every nx points in Y. In other words, for example, the erosion may be a step in which the initial resolution may be restored and only one pixel of the initial resolution may be updated with the pixel of the low resolution while the other pixels may be left blank. Therefore, contrary to the Examiner’s contention, the Charney reference fails to teach or suggest each and every feature.

Since the rejection fails to disclose or suggest each and every element of the rejected claims, Applicants respectfully submit that no *prima facie* case of obviousness has been established with respect to claim 13.

Further, in order to establish a *prima facie* case of obviousness, the Examiner must establish that it would have been obvious for one of ordinary skill to have combined the teachings of the cited documents.⁴ One way to establish this would be to show “some articulated reasoning with some rationale underpinning to support the legal conclusion of obviousness” and “identify a reason that would have prompted a person of ordinary skill in the relevant field to

³ See Office action mailed April 11, 2008, page 5, first full paragraph.

⁴ See *KSR Int’l Co. v. Teleflex, Inc.*, 550 U.S. at __, 82 USPQ2d at 1396 (2007).

combine the elements in the way the claimed new invention does.”⁵ Furthermore, the Examiner must make “*explicit*” this rationale of “the apparent reason to combine the known elements in the fashion claimed,” including a detailed explanation of “the effects of demands known to the design community or present in the marketplace” and “the background knowledge possessed by a person having ordinary skill in the art.”⁶

It is respectfully submitted that the Examiner has not met these criteria. For example, the Examiner asserts that:

it would have been obvious to one of an ordinary skill in the art to apply the same technique of sub-sampling, erosion and application as disclosed by Charney to obtain the same predictable results.

However, it is respectfully submitted that the above statement is merely conclusory and do not comprise an “*explicit rationale*” as required by *KSR Int'l*. Therefore, because the Examiner has not provided an explicit analysis as required by *KSR Int'l*, a *prima facie* case of obviousness has not been established.

In view of the above, Applicants respectfully submit that the Charney reference fails to teach or suggest each and every element of claim 13, and therefore, claim 13 is allowable over the cited prior art. Claims 14-18 are dependent from claim 13, and therefore, also allowable. Accordingly, Applicants respectfully request that the rejection under 35 U.S.C. § 103(a) be reconsidered and withdrawn.

⁵ *Id.*

⁶ *Id.*

Claim 18 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Charney in combination with U.S. Patent 6,345,104 to Rhoads. Applicants respectfully traverse this rejection for the reasons detailed below.

Claim 18 is believed to be allowable for at least the reasons set forth above regarding claim 13. The Rhoads reference fails to provide the teachings noted above as missing from the Charney reference. Since claim 18 is patentable at least by virtue of their dependency on claim 13, Applicants respectfully request that the rejection of claim 18 under 35 U.S.C. § 103(a) be withdrawn.

Claims 19-24 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Charney in combination with U.S. Patent 5,752,152 to Gasper et al. (“Gasper”) and further in view of U.S. Patent 7,000,113 to Linnartz. Applicants respectfully traverse this rejection for the reasons detailed below.

Claims 19-24 are believed to be allowable for at least the reasons set forth above regarding claim 13. The Gasper and Linnartz references fail to provide the teachings noted above as missing from the Charney reference. Since claims 19-24 are patentable at least by virtue of their dependency on claim 13, Applicants respectfully request that the rejection of claims 19-24 under 35 U.S.C. § 103(a) be withdrawn.

CONCLUSION

In view of the above remarks and amendments, Applicants respectfully submit that each of the pending objections and rejections has been addressed and overcome, placing the present application in condition for allowance. A notice to that effect is respectfully requested. Further, the above remarks demonstrate the failings of the outstanding rejections, and are sufficient to

overcome the rejections. However, these remarks are not intended to, nor need they, comprehensively address each and every reason for the patentability of the claimed subject matter over the applied prior art. Accordingly, Applicants do not contend that the claims are patentable solely on the basis of the particular claim elements discussed above.

Should there be any outstanding matters that need to be resolved in the present the undersigned at the telephone number below.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 08-0750 for any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17; particularly, extension of time fees.

Respectfully submitted,

HARNESS DICKEY, & PIERCE, P.L.C.

By

John A. Castellano, Reg. No. 35,094

P.O. Box 3910
Reston, Virginia 20195
(703) 668-8000

JAC/DJC:aem